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Biodiesel Project a Significant Step Forward

By Kenyon Kelly

I would like to compliment the Board of Commissioners of Catawba County for the leadership in approving an energy research project with five other agencies to provide funding for the next phase of the EcoComplex at Blackburn Landfill.

The Biodiesel Research and Freon Recovery facility will be the first of its kind in the state, and the project will be housed in a new building that will be a state-of-the-art green building that will exceed the highest standards set by the U.S. Green Building Council for energy efficiency and conservation.

In approving this venture, commissioners deserve to be recognized for managing to fund the $900,000 project without any cost to taxpayers, but rather by leveraging funds from the states Solid Waste Post Closure Reserve Fund, in addition to a grant from the Golden Leaf Foundation.

The biodiesel produced in this project will be predominantly used to operate the heavy equipment at the landfill, with the remainder employed in energy research.

The facility will provide testing and research for biodiesel manufacturers in western North Carolina. Biodiesel will also be manufactured from agricultural products grown at the landfill and from surrounding farms. The efficiency and energy output of the various sources will be tested by the facility to determine the best materials for Biodiesel production.

The county is exploring the use of algae as a fuel source, according to Barry Edwards, director of the Utilities and Engineering Department. Edwards said the county wants to build an algae farm in its EcoComplex and partner with municipalities in developing algae farms at wastewater treatment plants around the county. In this plan, biodiesel can be produced from byproducts of wastewater and solid-waste management.

Commissioner Dan Hunsucker made the excellent point the biodiesel can never be expected to replace petroleum diesel. The ASU project coordinator said there is not enough agricultural land to grow crops to produce biofuels. This goes to the issue of the trend of diverting farming activity away from food products to meet the demand for energy production.

This has led to increasing food prices around the world and has caused many to view bio-fuels with skepticism. Few believe that biodiesel is a panacea for the energy crisis but should be viewed as one of a myriad of options in the renewable energy sector that includes solar, wind and hydroelectricity as well as energy conservation.

Biodiesel differs from ethanol in several important ways, not the least of which is the energy balance ratio of the two fuels. Comparing the fossil fuels used in its production, corn ethanol barely breaks even in output and currently requires government subsidies to maintain marketability whereas biodiesel has an energy output ratio of two and a half times the input.

As chairwoman Kitty Barnes indicated, the BTU level of biodiesel is somewhat less than petroleum-based diesel. This is a concern for the operation of the heavy equipment at the landfill. Edwards responded that this is one of the issues that will be fleshed out through the testing of various grades of biodiesel and petroleum diesel.

Another significant difference between corn ethanol and biodiesel is in the area of emissions. While ethanol offers a 20 percent reduction in carbon emissions over gasoline, biodiesel can result in a 78 percent reduction over petroleum diesel. Biodiesel use contributes to a significant reduction of a wide range of air toxins including particulate matter.

While diesel is used in 13 percent of the U.S. passenger vehicles, it is the only source of fuel for school buses, construction, farm and transportation vehicles. As such, it is a major source of particulates, sulfur dioxide and hydrocarbon. Even at low blends (5 to 10 percent), biodiesel can greatly reduce emissions compared to its petroleum-based counterpart.

Catawba County is leading the state in the effort to develop new sources of fuel that will reduce our dependency on foreign oil and clean up our air while supporting our local farmers. As a citizen of this county and an advocated for increase use of renewable energy resources, I applaud this initial effort on the part of the county as a significant step in the right direction away from our dependency on declining fossil fuels.

As it becomes increasingly difficult to extract what remains of this finite energy source, experimental projects such as those at Catawba County's EcoComplex will be necessary as our nation moves toward energy independence.

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